



THE  
ONTARIO WATER RESOURCES  
COMMISSION  
WATER POLLUTION SURVEY  
VILLAGE OF EGANVILLE  
COUNTY OF RENFREW

June 1965

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THE  
ONTARIO WATER RESOURCES COMMISSION

Report on  
a  
WATER POLLUTION SURVEY  
of the  
VILLAGE OF EGANVILLE  
in the  
COUNTY OF RENFREW

Division of Sanitary Engineering

June 1965



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WATER POLLUTION SURVEY

of the

VILLAGE OF EGANVILLE

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## INTRODUCTION

A water pollution survey of the Village of Eganville was performed on September 10, 1964. Surveys of this type are made by the Ontario Water Resources Commission in order to locate potential and existing sources of surface water pollution. Recommendations are made concerning the abatement of conditions which adversely affect water quality. Appended to this report is a map of Eganville showing the locations of sampling points.

## INTERVIEWS WITH OFFICIALS

Discussions were held with the following officials during this survey:

Mr. E. C. Drefke, Clerk-Treasurer;  
Mr. J. Watt, Chief Public Health Inspector,  
Renfrew County Health Unit.

## VILLAGE OF EGANVILLE

Eganville is located approximately 18 miles south of the Town of Pembroke and is served by Highways 41, 60, and 512. According to the 1964 Municipal Directory, the population of the village is approximately 1,528. The area of the municipality is approximately 471 acres.

The Bonnechere River flows in an easterly direction through Eganville and bisects the village. From the banks of the river, the terrain rises somewhat abruptly from an elevation of approximately 525 feet to approximately 725 feet above sea level. The commercial sections of the village are concentrated near the river. Residences are located in many instances on steep hillsides.

### BONNECHERE RIVER AT EGANVILLE

This watercourse has its source in Algonquin Park and flows through such centres of population as Eganville and the Town of Renfrew to empty into the Ottawa River.

### WATER USES

#### Municipal

The Bonnechere River is the source of the municipal water supply at Eganville. The water purification plant is located on the north bank of the river in the upstream part of the village.

The Eganville Hydro-Electric Power Commission utilizes river water for the generating of electricity at the powerhouse which is situated at the dam within the village.

#### Industrial

At the time of this survey, the Eganville Creamery Limited plant was utilizing the river as the source of water supply for a portion of the industrial requirements.

#### Recreational

It is probable that the Bonnechere River is used to some extent for bathing purposes in Eganville. The exact locations of bathing areas were not disclosed during this survey.

### WATER SUPPLY

The construction of a municipal water works at Eganville was undertaken as an OWRC project and was completed during 1964. The source of water supply is the Bonnechere River, with the

purification plant and intake works being located near the north bank of the watercourse in the upstream part of the village. The treatment works provide coagulation, chlorination, and pressure filtration. Facilities for water storage have not been provided at this time.

#### SURFACE WATER DRAINAGE

Due to the topography of the village, surface run-off flows drain to the Bonnechere River.

Information was received pertaining to two municipal storm sewers in Eganville which might conduct flows of objectionable quality to the river. Since the outlets from these sewers were not observed during this survey, locations of the active or potential discharges are not shown on the appended map. Reportedly, a municipal storm sewer outlet is located on the north bank of the river at the east side of the Highway 41 bridge. This outfall was not accessible for sampling but reportedly conducts sewage flows from commercial and residential premises to the river. According to information received, a municipal storm sewer extends along Queen Street and conducts flows to a low-lying area located near the river in the vicinity of Church Street.

#### SANITARY WASTE DISPOSAL

The provision of adequate private sewage disposal systems in Eganville has been somewhat difficult because of geological conditions and the lack of sufficient space on many premises. Privies are utilized to a considerable extent within the village.



It was reported that the discharges from many septic tank systems probably gain access to fissures in the bedrock and emanate on the river banks. According to information received, the two hotels in Eganville are served by septic tanks with the partially treated effluents discharging to the river. Numerous other instances were reported concerning the existence of private sewers discharging to the river. These outfalls tend to be submerged and therefore could not be sampled readily during this survey. The known sewer outlets in Eganville are located downstream from the municipal water works intake. Dye-testing procedures would be required to effectively determine the extent of unsatisfactory sewage disposal procedures within the village. It is evident that sewage disposal problems are quite prevalent in Eganville, and that public sewage works would provide a practical solution to these conditions existing within the municipality.

#### CONSIDERATION RE SEWAGE WORKS

A preliminary engineering report on municipal water and sewage works requirements for Eganville was prepared in 1956. The water works proposal has achieved fruition. With respect to sewage works, the firm of consulting engineers has recommended the use of separate storm and sanitary sewers, and sewage treatment facilities which would provide secondary-type treatment for the waste flows prior to their discharge to the Bonnechere River. The provision of effluent chlorination facilities was advised. The site suggested by the consulting firm for the location of the proposed sewage

treatment facilities is on the south side of the Bonnechere River in the vicinity of Alexander Street and Weeks Street. The recent provision of municipal water works in Eganville has resulted in deferment of the construction of municipal sewage works.

#### INDUSTRY

Some of the principal industrial firms located in Eganville are listed as follows:

| <u>Name of Firm</u>             | <u>Product</u>    |
|---------------------------------|-------------------|
| A. E. Lisk and Sons Limited     | Bakery products   |
| R.G. Reinke and Sons Limited    | Building supplies |
| Arvo Kiviste's woodworking shop | Woodworking       |
| Eganville Creamery Limited      | Dairy products    |

With regard to the aforementioned industrial firms, the Eganville Creamery Limited plant is the only one which is known to discharge sanitary and industrial waste flows to the river. Although action should be taken to exclude these untreated waste discharges from the watercourse, it is obvious that the practical solution would be to discharge these flows to municipal sewage works when such become available.

#### SAMPLING PROCEDURES

Samples were collected from the waters of the Bonnechere River in Eganville. The pertinent laboratory results are appended to this report, as is the map showing the locations of sampling points.

#### INTERPRETATION AND SIGNIFICANCE OF LABORATORY RESULTS

The analyses employed to determine the quality of

samples were: biochemical oxygen demand (BOD), solids, nitrogen, and the enumeration of coliform organisms.

The BOD of sewage, industrial wastes, or polluted waters, is the oxygen required during stabilization of the decomposable organic or chemical material by aerobic biochemical action. A five-day BOD determination with incubation at 20 degrees Centigrade is reported. A high BOD is indicative of organic or chemical pollution.

The analyses for solids include tests for total, suspended, and dissolved solids. The results are reported in ppm. The first test measures both the solids in solution and in suspension. The suspended solids indicate the measure of undissolved solids of organic or inorganic nature in suspension. Land erosion, sewage, and industrial wastes, are significant sources of suspended solids. Suspended solids in water can present difficulties in water purification, and might result in depositions in streams which can interfere with the habitat of aquatic life. The dissolved solids are a measure of these solids in solution.

Nitrogen determinations were performed to ascertain the influence of organic waste on the nitrogen content of the water-course.

The coliform count is employed to obtain an enumeration of coliform organisms. The presence of coliforms indicates pollution by human or animal excrement, or by some non-faecal forms. The number of coliforms is reported per 100 millilitres (ml) of the sample. The membrane filter technique was used in the

examination of these samples. It is the opinion of the OWRC that the presence of coliforms in a watercourse should not exceed 2,400 organisms per 100 ml of water.

#### SAMPLE RESULTS

The laboratory results of analyses and examinations performed on the water samples collected from the Bonnechere River in Eganville are appended to this report.

The nitrogen content of the watercourse increased within the village, thus revealing the effect of organic waste discharges on stream quality. The increase in coliforms revealed the influence of sewage flows on the river water. Coliform concentrations in excess of 2,400 organisms per 100 ml were revealed in samples collected from the watercourse in Eganville. These sample points are located downstream from the municipal water works intake.

#### SUMMARY

A water pollution survey of the Village of Eganville was performed by Commission staff on September 10, 1964. Since outfalls were not readily accessible, sampling was confined to the waters of the Bonnechere River. The pertinent laboratory results reveal that the quality of the river water is adversely affected to an appreciable extent by wastes gaining access to the watercourse within the village.

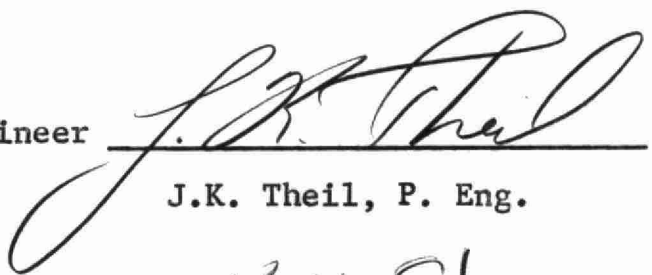
Eganville does not have municipal sewage works. Although a preliminary engineering report on such works was obtained several years ago, the municipal officials have not adopted a programme for the construction of these facilities.

RECOMMENDATION

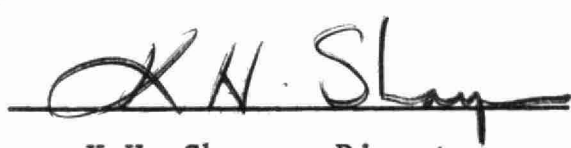
Municipal sewage works should be provided at Eganville in order to exclude untreated or inadequately treated sewage flows from the Bonnechere River within the municipality.

All of which is respectfully submitted.

District Engineer

  
J.K. Theil, P. Eng.

Approved by

  
K.H. Sharpe, Director.

Prepared by:

R.G. Barrens, Eng. Tech.

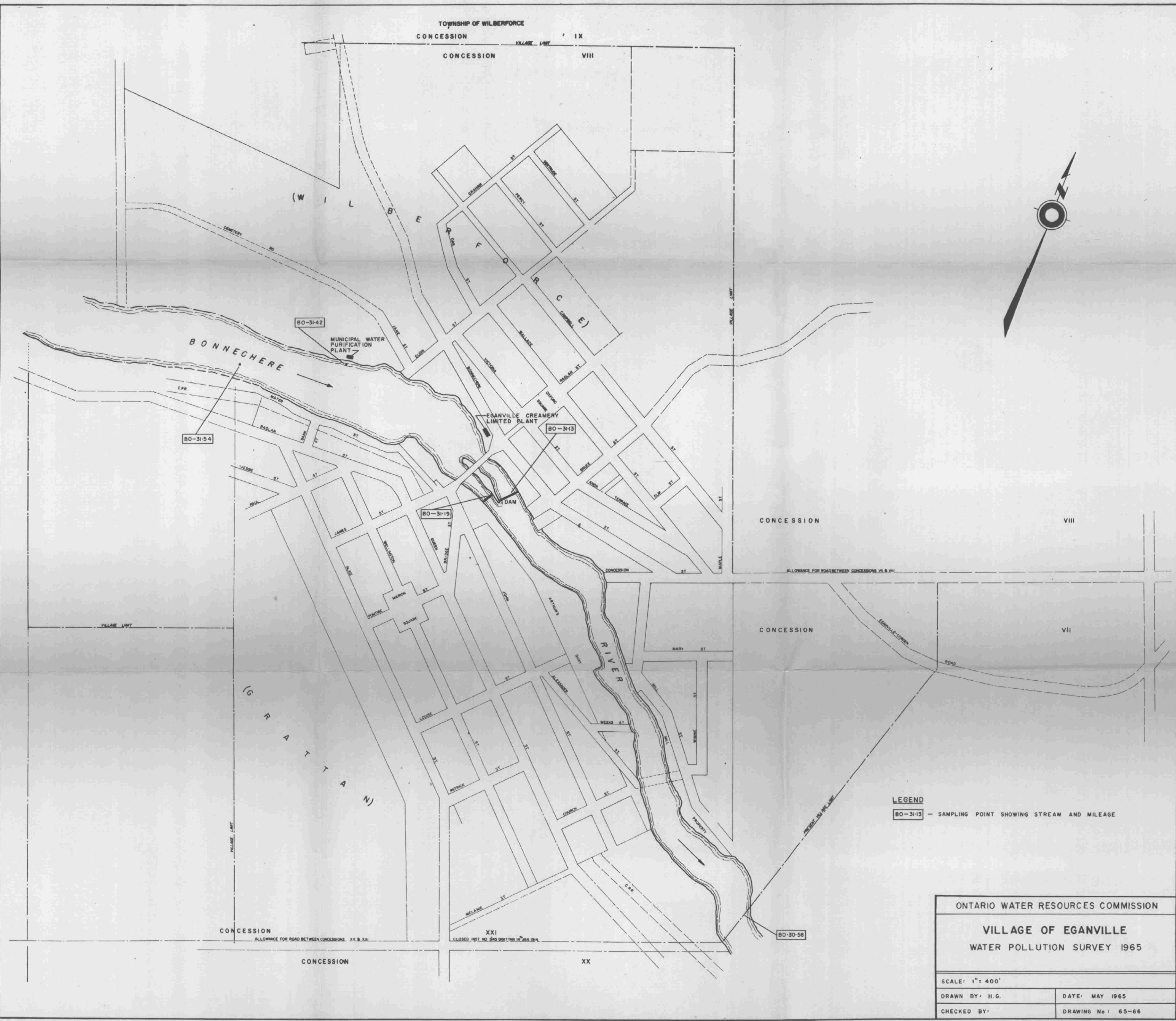
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BONNECHERE RIVER

WITHIN THE VILLAGE OF EGANVILLE

ALL ANALYSES ARE REPORTED IN PPM  
UNLESS OTHERWISE INDICATED.

| SAMPLE POINT<br>NUMBER | DATE        | DESCRIPTION                                                      | 5-DAY<br>BOD | S O L I D S |       |       | NITROGEN<br>AS N | BACTERIOLOGICAL EXAMINATION<br>M.F. COLIFORM COUNT/100 ML. |
|------------------------|-------------|------------------------------------------------------------------|--------------|-------------|-------|-------|------------------|------------------------------------------------------------|
|                        |             |                                                                  |              | TOTAL       | SUSP. | DISS. |                  |                                                            |
| B0. 31.54              | SEPT. 10/64 | BONNECHERE RIVER NEAR UPSTREAM LIMIT OF<br>EGANVILLE             | 1.2          | 84          | 2     | 82    | 0.33             | 190                                                        |
| B0. 31.42              | SEPT. 10/64 | BONNECHERE RIVER AT NORTH BANK NEAR NEW<br>WATER WORKS PUMPHOUSE | 0.7          | 68          | 3     | 65    | 0.39             | 310                                                        |
| B0. 31.19              | SEPT. 10/64 | BONNECHERE RIVER AT DAM NEAR SOUTH SIDE<br>OF WATERCOURSE        | 1.2          | 64          | 4     | 60    | 0.46             | 11,000                                                     |
| B0. 31.13              | SEPT. 10/64 | BONNECHERE RIVER AT FOREBAY OF POWERHOUSE                        | 2.8          | 102         | 9     | 93    | 0.46             | 6,900                                                      |
| B0. 30.58              | SEPT. 10/64 | BONNECHERE RIVER AT DOWNSTREAM LIMIT OF<br>EGANVILLE             | 0.3          | 64          | 4     | 60    | 0.39             | 2,200                                                      |



LEGEND  
BO-31-13 - SAMPLING POINT SHOWING STREAM AND MILEAGE

|                                    |                   |
|------------------------------------|-------------------|
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